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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,347	10/10/2003	James Robert Angus Collier	A36096-PCT-USA-A (074764,	9218
21003	7590	12/09/2009	EXAMINER	
BAKER BOTTS L.L.P.			HIGA, BRENDAN Y	
30 ROCKEFELLER PLAZA				
44TH FLOOR				
NEW YORK, NY 10112-4498				
			ART UNIT	PAPER NUMBER
			2453	
			NOTIFICATION DATE	DELIVERY MODE
			12/09/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/684,347	<b>Applicant(s)</b> COLLIER ET AL.	
	<b>Examiner</b> BRENDAN HIGA	<b>Art Unit</b> 2453	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 October 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 and 28-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 and 29-31 is/are rejected.
- 7) ☒ Claim(s) 22, 28 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/10/2003</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This communication is in regard to the applicant's response to the restriction requirement received on October 13, 2009.

Applicant's election without traverse of claims 1-25 and 28-31 in the reply filed on October 13, 2009 is acknowledged.

Claims 26 and 27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claims 1-25 and 28-31 are pending.

### ***Priority***

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

Applicant's further claim for the benefit of a prior-filed foreign application under 35 U.S.C. 119(a)-(d) or 365(a) or (b) is acknowledged.

The effective U.S. filing date for the subject matter defined in the pending claims in this application is April 12, 2002, although the filing date of the foreign priority document may be used to overcome certain references. See *MPEP* §706.02(b) and §2136.05.

### ***Drawings***

The Examiner contends that the drawings submitted on October 10, 2003 are acceptable for examination proceedings.

### ***Claim Interpretation***

As per the limitation "apparatus" of claims 16-25, the examiner is interpreting the limitation in view of Applicant's specification as a physical end point device (e.g. cell phone, PDA, computer) (see page 7, lines 1-20).

### ***Claim Objections***

Claim 22, 28 and 29 are objected to because of the following informalities:

Claims 22 and 29 are objected to since the claims are generally narrative and fails to conform with current U.S. practice. For example the structure of claims 22 and 29:

(1) lack a transitional phrase such as "wherein the improvement comprises" to clearly separate the preamble from the body of the claim (see CFR §1.75(e)(2)); and

(2) the claims appears to list a number elements or steps (i.e. "receive said one or more...", "produce one or more...", ect., with respect to claim 22, and "using the content of each input..", "including each computed unique identifier...", ect. with respect to claim 29), however, the elements or steps are not separated by a line indentation as required under CFR §1.75(i).

Claim 28 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-25 and 29-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1 the limitation "the content of said one or more output information objects...", in line 9, lacks antecedent basis in the claim. For the purpose of this office action the examiner is interpreting the claim to read "[[the]] a content of said one or more output information objects...".

Claims 2-15 incorporate the deficiencies of claim 1, through dependency, and are thus rejected for the same reasons as noted with respect to claim 1.

As per claim 2, with respect to the limitation "at least selected information objects...", in line 1, it is unclear whether Applicant's is referring to input information

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objects or output information object. For the sake of this office action the examiner has interpreted the claim to read “at least selected input information objects”.

As per claim 8, the limitation "the network" in line 4, lacks antecedent basis in the claim. For the purpose of this office action the examiner has interpreted the claim to read “the communications network”, which is reflected in line 2 of claim 1.

Claims 9-10 incorporate the deficiencies of claim 8, through dependency, and are thus rejected for the same reasons as noted with respect to claim 8.

As per claim 10, the limitation "said resource indicator" in line 1, lacks antecedent basis in the claim. For the purpose of this office action the examiner has interpreted the claim to read “said one or more resource indicators”, which is reflected in line 1 of claim 8.

As per claim 11, the limitation “including providing one or more resource indicators”, raises an issue of indefiniteness, because claim 8, from which claim 11 depends, previously recited “providing one or more resource indicators” thus it is unclear if applicant in claim 11, is now requiring a new set of resource indicators, or if Applicant is referring to the same set of resource indicators in claim 8. For the purpose of this office action the examiner is interpreting the resource indicators in claim 11, as being separate and distinct from the resource indicators in claim 8.

As per claim 15 the limitation “relatively easily accessible” in line 2 is a relative term which renders the claim indefinite. The term “relatively easily accessible” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For the purpose of this office action the examiner is interpreting the limitation “*relatively easily accessible*” as requiring less retrieval time.

As per claim 16 the limitation “the content of said one or more output information objects...”, in line 11, lacks antecedent basis in the claim. For the purpose of this office action the examiner is interpreting the claim to read “[[the]] a content of said one or more output information objects...”.

Claims 17-21 incorporate the deficiencies of claim 16, through dependency, and are thus rejected for the same reasons as noted with respect to claim 16.

As per claim 22, the limitation “the content of said one or more output information objects...”, in line 5, lacks antecedent basis in the claim. For the purpose of this office action the examiner is interpreting the claim to read “[[the]] a content of said one or more output information objects...”.

Claims 23 incorporate the deficiencies of claim 22, through dependency, and is thus rejected for the same reasons as noted with respect to claim 23.

As per claim 23, the limitation “the logical location” in line 3, lacks antecedent basis in the claim. For the purpose of this office action the examiner is interpreting the claim to read “[the] a logical location...”.

As per claim 25 the limitation “conveniently located copy” in line 4 is a relative term which renders the claim indefinite. The term "conveniently located copy" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For the purpose of this office action the examiner is interpreting the limitation “conveniently located copy” as simply a copy of a document that a user may access.

As per claim 29, the limitation "...the tracking of the transformation of information objects..”, in line 1, lacks antecedent basis in the claim. For the purpose of this office action the examiner is interpreting the claim to read “[the] tracking [of the] a transformation of information objects...”

Furthermore, the limitation "the content of each input information object...”, in line 3, lacks antecedent basis in the claim. For the purpose of this office action the examiner is interpreting the claim to read “[the] a of each input information object...”.



Also, the limitation “the content of each output information object...” in line 6 lacks antecedent basis in the claim. For the purpose of this office action the examiner is interpreting the claim to read “[the] a content of each input information object...”.

Furthermore, claim 29, appears to require “a method of providing for the tracking of the information objects”, however, the body of the claim does not put a person having ordinary skill in the art on notice of how the step of *“using the content of each input information object to a transformation to compute a unique identifier for that input information object and including each computed unique identifier in the content of each output information object from said transformation so that each said unique identifier can be determined from each said output information object”* accomplishes the intended tracking information objects. Thus claim 29 is indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 30 and 31 incorporate the deficiencies of claim 29, through dependency, and are thus rejected for the same reasons as noted with respect to claim 29.

As per claim 30, the limitation “stored unique identifiers<sub>g</sub>” lacks antecedent basis in the claim. For the purpose of this office action the examiner has interpreted the claim to read “...the stored unique identifier[s] for each output information object is [are] associated with each input information object.”

Claims 13, 14, 16-19, and 22-25 are further rejected under 35 U.S.C. 112, second paragraph, for the following reasons:

For a computer-implemented means-plus-function claim limitation that invokes 35 U.S.C. 112, sixth paragraph, the corresponding structure is required to be more than simply a general purpose computer or microprocessor (see *Aristocrat Technologies Inc. v. International Game Technology*, 521 F. 3d 1328, 1333 (Fed.Cir. 1999)). The corresponding structure for a computer-implemented function must include the algorithm as well as the general purpose computer or microprocessor (See *WMS Gaming, Inc. v. International Game Technology*, 184 F. 3d 1339 (Fed Cir. 1999)). The written description of the specification must at least disclose the algorithm that transforms the general purpose microprocessor to a special purpose computer programmed to perform the disclosed algorithm that performs the claimed function (see *Aristocrat* at 1328). Applicant may express the algorithm in any understandable terms including as a mathematical formula, in prose, in a flow chart, or in any other matter that provides sufficient structure (See *Finisar Corp. v. The DIRECTV Group Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 1999)). See *MPEP 2181* for examples where the courts held that the corresponding structure is adequate for the computer-implemented means-plus function claim limitations (See e.g., *In re Dossell*, 115 F.3d 942, 946-47; *Intel Corp. v. VIA Technologies, Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003)). A rejection under 35 U.S.C. 112, second paragraph, is appropriate if the written description of the specification discloses no corresponding algorithm. (see *Aristocrat* at 1337-38). For example, merely referencing to a general purpose computer with appropriate programming without providing any detailed explanation of the appropriate programming (*Id.* at 1334), or simply reciting software without providing some detail

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about the means to accomplish the function (See *Finisar*, 523 F. 3d at 1340-31), would not be an adequate disclosure of the corresponding structure to satisfy the requirement of 35 U.S.C. 112, second paragraph, even when one of ordinary skill in the art is capable of writing the software to convert a general purpose computer to a special purpose computer to perform the claimed function.

The structure disclosed in the written description of the specification is the corresponding structure only if the written description of the specification or the prosecution history clearly links or associates that structure to the function recited in a means-plus-function claim limitation under 35 U.S.C. 112, sixth paragraph (see *B. Braun Medical Inc., v. Abbott Laboratories*, 124 F.3d 1419, 1424 (Fed Cir. 1997)). The requirement that a particular structure be clearly linked with the claimed function in order to qualify as corresponding structure is the *quid pro quo* for the convenience of employing 35 U.S.C. 112, sixth paragraph, and is also supported by the requirement of 35 U.S.C. 112, second paragraph, that an invention must be particularly pointed out and distinctly claimed (see *Medical Instrumentation & Diagnostic Corp.*, 344 F.3d at 1211 (Fed Cir. 2003)). For a means (or step) plus function claim limitation that invoke 35 U.S.C. 112, sixth paragraph, a rejection under 35 U.S.C. 112, second paragraph, is appropriate if one of ordinary skill in the art cannot identify what structure, material, or acts disclosed in the written description of the specification perform the claimed function.

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Here, as per claims 13, 14, 16, 17, 18, and 19 the limitations including “storage means” properly invokes 35 U.S.C. 112 6<sup>th</sup> paragraph. Also see *Ethicon, Inc. v. United States Surgical Corp.*, 135 F.3d 1456, 1463, 45 USPQ2d1545, 1550 (Fed. Cir. 1998) (“use of the word means gives rise to a presumption that the inventor used the term advisedly to invoke the statutory mandates for means-plus-function clauses”).

Similarly:

As per claims 16, 17, 18, 19, 22, and 23 the limitation including “processing means” properly invokes 35 U.S.C. 112 6<sup>th</sup> paragraph.

As per claim 16 the limitation “input means” properly invokes 35 U.S.C. 112 6<sup>th</sup> paragraph.

As per claim 16, the limitation “output means” properly invokes 35 U.S.C. 112 6<sup>th</sup> paragraph.

As per claim 24 the limitation "means to record" properly invokes 35 U.S.C. 112 6<sup>th</sup> paragraph.

As per claims 24 and 25 the limitation “means to provide” properly invokes 35 U.S.C. 112 6<sup>th</sup> paragraph.

Finally, as per claim 25 the limitation “means to evaluate” properly invokes 35 U.S.C. 112 6<sup>th</sup> paragraph.

However, with regards to “a storage means” Applicant’s specification fails to clearly link or associates the structure in Applicant’s specification that is intended to perform the function of “storing location of copies and unique identifiers”, with respect to claims 13 and 14, and for “storing instructions”, with respect to claims 16, 17, 18, and 19. Thus, Applicant's specification is inadequate to satisfy the requirement of 35 U.S.C. 112, second paragraph.

Furthermore, with regards to the limitation “processing means”, “input means”, and “output means”. The specification discloses in Figure 1, a network including 5 nodes, each node including a “computer process” (see page 8, lines 16-17) and an attached “network interface” to facilitate information communications with the network (see Fig. 1, ref. 2 and page 7, lines 6-8). However, the claim requires the Applicant's written description to clearly link or associate a structure corresponding to a processing means *including* one or more input means and at least one output means. Here, the network interface is not described as being included within the computer processor, thus it is unclear as to the structure in Applicant’s specification that is intended to perform the function corresponding to either the “processing means”, “input means”, or “output means” to satisfy the requirement of 35 U.S.C. 112, second paragraph.

Also, as per the limitation "means to record", Applicant’s specification is silent as to the algorithm that transforms a general purpose microprocessor to a special purpose computer programmed that performs the claimed function of recording (see *Aristocrat* at

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1328). Thus Applicant's specification fails to satisfy the requirement of 35 U.S.C. 112, second paragraph, with regards to the "means to record" limitation.

Similarly, as per the limitation "means to provide", Applicant's specification is silent at the algorithm that transforms a general purpose microprocessor to a special purpose computer programmed that performs the claimed function of providing. *Id.* Thus Applicant's specification fails to satisfy the requirement of 35 U.S.C. 112, second paragraph, with regards to the "means to provide" limitation.

Similarly, as per the limitation "means to evaluate", Applicant's specification is silent at the algorithm that transforms a general purpose microprocessor to a special purpose computer programmed that performs the claimed function of evaluating. *Id.* Thus Applicant's specification fails to satisfy the requirement of 35 U.S.C. 112, second paragraph, with regards to the "means to provide" limitation.

Claims 15, 20, and 21 incorporate the deficiencies of either claims 14 or 19, through dependency, and are thus rejected for the same reasons as noted with respect to claim 14 and 19.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-15, 22, 23 and 29-31 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-15 are directed to “*a method of performing an information transformation on one or more input information objects within a communications network*”, however, under *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) the Court stated that “a claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.” *Id.* at 956.

Here, claims 1-15, are not tied to a particular machine. Although the preamble mentions that the information transformations are intended to be used within a communications network, the body of the claim does not require a machine for performing the steps of:

- 1) receiving as an input to said information transformation one or more input information objects;
- 2) producing an output including one or more output information objects;
- 3) determining for each input information object a unique identifier for that input information object;
- 4) providing in the content of said one or more output information objects tracking information from which the unique identifier of each information object received as an input to said information transformation is determinable;

Thus the broadest reasonable interpretation of the claim could include, for

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example, a mental step for performing the steps of "receiving", "producing", "determining" and "providing".

Furthermore, "an information object" is not a particular article that can be transformed into a different state or thing, thus claim 1 does not define a transformation of any particular article.

Similarly, the steps recited in claims 2-15, do not require the use of a machine nor do claims 2-15 require the transformation of a particular article into a different state or thing.

For these reasons claims 1-15 are rejected as being directed to non-statutory under 35 U.S.C. 101.

Claim 22 and 23 are directed to computer software *per se* (i.e. a computer program) which is non-statutory subject matter under 35 U.S.C. 101. See *MPEP 2106.01*: 'A computer program in the abstract [is] not a physical "thing." It is neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality



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*to be realized, and is thus statutory. See In re Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035 (Fed. Cir. 1994).'*

Claims 29-31 are directed to “*a method of performing an information transformation on one or more input information objects within a communications network*”, however, as noted above *Bilski* requires that a claimed process be either 1) tied to a particular machine or apparatus, or 2) transform a particular article into a different state or thing. *Id. at 956.*

Here, claims 29-31, are not tied to a particular machine. Although the preamble mentions that the information transformations are intended to be used within a communications network, the body of the claim does not require a machine for performing the steps of:

- 1) using the content of each input information object to a transformation to compute a unique identifier for that information object; and
- 2) including each compute unique identifier in the content of each output information object from said transformation so that each said unique identifier can be determined from each said output information object.

Thus the broadest reasonable interpretation of the claim could include, for example, a mental step for performing the steps of “using...”, and “including...”.

Furthermore, “an information object” is not a particular article that can be transformed into a different state or thing, thus claim 29 does not define a transformation of any particular article.

Similarly, the steps recited in claims 30-31 do not require the use of a machine - claim 31 recites an intended use limitation (i.e. when used in a peer-to-peer network environment) but does not require the use of machine - nor do claims 30 and 31 require the transformation of a particular article into a different state or thing.

For these reasons claims 29-31 are rejected as being directed to non-statutory under 35 U.S.C. 101.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-7, 12, 16-18, 22, 23, and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsumoto et al. (US 5,465,299) ("Matsumoto").**

As per claim 1, Matsumoto teaches a method of performing an information transformation (i.e. changing contents, see abstract) on one or more input information objects (i.e. electronic documents, see abstract) within a communications network (see Fig. 1A, ref. 12), the method including:

receiving as an input to said information transformation (see col. 3, lines 6-21, i.e. a terminal which receives an electronic document and "*adds new data or changes the document contents*", read as an information transformation) one or more said input

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information objects (see col. 3, lines 6-21, “*electronic document which was received from a network*”) and producing an output including one or more output information objects (see col. 3, lines 6-21, i.e. new version of the electronic document); determining for each input information object a unique identifier for that input information object (see col. 3, lines 6-21, “*at least one digital signature ...*”, read as a unique identifier); providing in the content of said one or more output information objects tracking information (see 3, lines 6-21, “*version management information*”, read as tracking information) from which the unique identifier of each information object received as an input to said information transformation is determinable (see Fig. 11, wherein previous digital signatures (see Fig. 11, ref. 906, read as unique identifiers) are determinable from the version management information).

As per claim 2, Matsumoto further teaches wherein at least selected information input objects include protection information including one or more protection measures (see col. 9, lines 45-55, “Another hash total process 413 is executed to the version management table 412B”) to prevent or notify of any unauthorized modification or deletion of said protected information (see col. 10, lines 44-54) and wherein said unique identifier (i.e. “*digital signature*”) is determined dependent on said protected information (see col. 10, lines, 44-54, “when they differ, it is determined that an illegal alteration was performed to the digital signature 411B”).

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As per claim 3, Matsumoto further teaches including providing in the content of said one or more output information objects, information that uniquely identifies said information transformation (see col. 9, lines 34-43, “the contents of the change (addition of data, substitution of data or deletion of data) (i.e. information transformations) are recorded into the version management table 412B”)

As per claim 4, Matsumoto further teaches including providing said tracking information within a protected part of said one or more output information objects (see col. 9, lines 45-55, “Another hash total process 413 is executed to the version management table 412B”).

As per claim 5, Matsumoto further teaches wherein said tracking information forms part of the protected information used for determining said unique identifier (see col. 9, lines 45-55, “Another hash total process 413 is executed to the version management table 412B”).

As per claim 6, Matsumoto further teaches determining said unique identifier by performing a hash computation on said protected information (see col. 9, lines 45-55, “Another hash total process 413 is executed to the version management table 412B”).

As per claim 7, Matsumoto further teaches wherein said tracking information is time-invariant (see Fig. 11, wherein the version management information table is not stored with respect to any particular time or date, read as time invariant).

As per claim 12, Matsumoto further teaches including recording with each said input information object a unique identifier of each output information object (i.e. executing a digital signature to the updated document data, see col. 9, lines 34-44).

As per claim 16, Matsumoto teaches an apparatus for information object transformation within a communications network (see col. 3, lines 6-21, i.e. a terminal which receives an electronic document and *"adds new data or changes the document contents"*, read as an information transformation), the apparatus including:

processing means (i.e. see Fig. 1B, ref. 10 including a CPU) including one or more input means and at least one output means (see Fig. 1B, ref. 1209, "Communication Control") for receiving and outputting one or more information objects to and from a communications network respectively (see col. 3, lines 6-21, *"electronic document which was received from a network"*, read as information objects); and

storage means (see Fig. 1B, ref. 1205, "program memory") readable by said processing means and storing instructions (i.e. programs) to cause said processing means to transform information objects received at said input means (see col. 3, lines 6-21, i.e. a terminal which receives an electronic document and *"adds new data or changes the document contents"*, read as an information transformation objects),

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produce one or more output information objects at said output means (see col. 3, lines 6-21, i.e. new version of the electronic document) and include within the content of the or each output information object tracking information (see 3, lines 6-21, “*version management information*”, read as tracking information) that uniquely identifies all said information objects received at said input means (see digital signatures, see Fig. 11, ref. 906, and col. 3, lines 6-21).

As per claim 17, Matsumoto further teaches wherein said storage means further includes instructions to cause said processing means to include information that uniquely identifies the information transformation within said tracking information (see col. 9, lines 34-43, “the contents of the change (addition of data, substitution of data or deletion of data) (i.e. information transformations) are recorded into the version management table 412B”).

As per claim 18, Matsumoto further teaches wherein said storage means further includes instructions to cause said processing means to protect predetermined information within said output information object and include within said predetermined information said tracking information (see col. 9, lines 45-55, “Another hash total process 413 is executed to the version management table 412B”).

As per claim 22, Matsumoto teaches a computer program for performing an information transformation on one or more input information objects (i.e. changing contents, see abstract) the computer program including instructions to cause a computer processing means (i.e. see Fig. 1B, ref. 10 including a CPU) to receive said one or more input information objects (see col. 3, lines 6-21, i.e. a terminal which receives an electronic document and *"adds new data or changes the document contents"*, read as an information transformation objects), produce one or more output information objects (see col. 3, lines 6-21, i.e. new version of the electronic document) and include within the content of the or each output information object tracking information (see 3, lines 6-21, *"version management information"*, read as tracking information) that uniquely identifies all said received information objects (see digital signatures, see Fig. 11, ref. 906, and col. 3, lines 6-21).

As per claim 23, Matsumoto further teaches instructions to cause said computer processing means to include a reference to the logical location (i.e. address "279120", see col. 10, lines 16-20) of said input information objects (i.e. old data, see col. 10, lines 16-20) within or associated with each output information object (i.e. new data, see col. 10, lines 16-20).

As per claim 29, Matsumoto teaches a method of providing for the tracking of the transformation of information objects within a communications network (i.e. a document that is circulated among terminal devices mutually connected to a communications

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network, see col. 5, lines 35-50), the method including using the content of each input information object (i.e. an electronic document of a new version, see col. 3, lines 6-21) to a transformation to compute a unique identifier for that input information object (i.e. digital signature, which is produced based on the content of the electronic document see col. 3, lines 6-21 “a digital signature of a user ... is produced by using signatory data including a hash total of a document formed process to *the electronic document of a new version...*”) and including each computed unique identifier in the content of each output information object from said transformation (i.e. recorded in the version management table, see col. 9, lines 34-41) so that each said unique identifier can be determined from each said output information object (i.e. sequentially checked, see col. 7, lines 22-26).

As per claim 30, Matsumoto further teaches including computing and storing a unique identifier for each output information object, wherein the stored unique identifiers are associated with each input information object (see Fig. 11, ref. 906, wherein said digital signatures are stored in a version management table and associated with document data, see Fig. 11, ref. 906, also see col. 11, line 50 - col. 12, line 12).

As per claim 31, Matsumoto further teaches when used in a peer-to-peer network environment (see “terminal devices which are mutually connected by a communications network 12”, read as a peer to peer environment).



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**Claims 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Cullen et al. (US 5,893,908).**

As per claim 24, Cullen teaches an apparatus for providing directions to a user where to obtain a copy of an information object in a communications network when multiple copies exist (see col. 4, lines 41-54, wherein multiple versions of a document exist in a document database on a network), the apparatus including:

means to record the location of copies of said information object within said communications network (see "HTML link anchors", col. 4, lines 41-54) and record a unique identifier associated with the information object (see col. 4, lines 50-54, "Optionally the HTML page also includes ...information identifying which office equipment item was the document's entry point", read as a unique identifier); and means to provide information referring to a network location of at least one copy of the information object together with said unique identifier to said user upon request from the user (see col. 5, lines 55-col. 6, lines 26).

As per claim 25, Cullen further teaches wherein said means to provide information referring to a network location of at least one copy of the information object includes means to evaluate (see col. 5, lines 55-col. 6, lines 26, wherein the user's search terms are evaluated) and send a conveniently located copy for said user (see Fig. 6A, and col. 6, lines 13-26).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 8-11, 13, 14, 19, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. (US 5,465,299) ("Matsumoto") in further view of Cullen et al. (US 5,893,908) ("Cullen").**

As per claim 8, Matsumoto further teaches providing one or more resource indicators within or associated with said one or more output information objects that

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identifies where or how said one or more input information objects may be found within the network.

Nevertheless in same art of version management, Cullen teaches a document management system, including a hypertext database 312 showing a version relationship among documents stored in a document database 302. Preferably, hypertext database 306 includes an HTML page for each series of documents document database 302 in the form of "HTML link anchors" which include a filename in a document database (see Fig. 3, and col. 4, lines 41-64, wherein the examiner is reading an HTML link anchor as a resource indicator that identifies where or how an output information object may be found within the network (i.e. document database 302)).

A person having ordinary skill in the art would have been motivated to modify the teachings of Matsumoto with the teachings of Cullen by (1) including within Matsumoto's system a document database for storing the electronic document of Matsumoto's invention; and (2) passing to terminal devices HTML link anchors pointing to electronic documents (i.e. an output information object) stored in the document database. The motivation for doing so would have been to provide a central database from which to backup and retrieve electronic document circulated by Matsumoto's invention (see col. 2, lines 31-46). Furthermore, by circulating HTML link anchors of electronic documents to other terminal devices, as opposed to circulating the electronic document itself (as performed by Matsumoto, see col. 2, lines 29-39) this would have reduced the bandwidth required by Matsumoto for circulating the electronic document.

As per claim 9, Matsumoto in view of Cullen further teaches the method of claim 8, wherein said one or more resource indicators includes a reference to a specific namespace that the one or more input information objects is located (i.e. a HTML link anchor that points to a specific location within document database 302, see Cullen Fig. 3, and col. 4, lines 41-64).

The same motivation that was utilized for combining Matsumoto and Cullen in claim 8 applies equally well to claim 9.

As per claim 10, Matsumoto in view of Cullen further teaches the method of claim 8, wherein said resource indicator includes a reference to a specific location of the one or more input information objects (i.e. a HTML link anchor that points to a specific location within document database 302, see Cullen Fig. 3, and col. 4, lines 41-64).

The same motivation that was utilized for combining Matsumoto and Cullen in claim 8 applies equally well to claim 10.

As per claim 11, Matsumoto in view of Cullen further teaches providing one or more resource indicators within or associated with said one or more output information objects that identifies where or how said information transformation (i.e. Matsumoto col. 3, lines 6-21, i.e. a terminal which receives an electronic document and *"adds new data or changes the document contents"*, read as an information transformation) may be found within network (see also col. 4, lines 41-64, wherein the HTML page also includes

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information identifying which office equipment item was the document's entry point into the system, wherein the examiner is reading the office equipment as the terminal which received the electronic document and performed the adding or changing of the document contents in Matsumoto's invention).

A person having ordinary skill in the art would have been motivated to modify the teachings of Matsumoto in view of Cullen for including a resource indicator identifying where or how said information transformation may be found within the network (i.e. information identifying which office equipment within the network performed the adding or changing of the document contents). The motivation for doing so would have been to identify and discover the terminal device in Matsumoto's invention that made changes to the document.

As per claim 13, Matsumoto further teach including storing in a storage means (i.e. version management table, see Fig. 11, col. 11, lines 52-63) including information that is provided to a user upon request (i.e. when the electronic document is circulated from person to person, see col. 1, lines 23-35, read as upon request).

However, Matsumoto does not expressly teach storing in said version management table locations of copies of information objects (i.e. versions of electronic documents), which is provided to the user along with the information in the version management table.

Nevertheless, in the same art as noted above, Cullen teaches a document management system, including a hypertext database 312 showing a version

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relationship among documents stored in a document database 302. Preferably, hypertext database 306 includes an HTML page for each series of documents document database 302 in the form of "HTML link anchors" which include a filename in a document database (see Fig. 3, and col. 4, lines 41-64, wherein the examiner is reading an HTML link anchors as locations of copies of information objects, corresponding to location in said document database 302).

A person having ordinary skill in the art would have been motivated to modify the teachings of Matsumoto with the teachings of Cullen by (1) including within Matsumoto's version management table HTML link anchors pointing to electronic documents (i.e. an information object) stored in a remote document database. The motivation for doing so would have been to provide a central database from which to backup and retrieve electronic document circulated by Matsumoto's invention (see col. 2, lines 31-46). Furthermore, by circulating HTML link anchors of electronic documents to other terminal devices, as opposed to circulating the electronic document itself (as performed by Matsumoto, see col. 2, lines 29-39) this would have reduced the bandwidth required by Matsumoto's invention for circulating the electronic document.

As per claim 14, Matsumoto in view of Cullen further teaches including storing in said storage means (i.e. version management table, see Fig. 11, col. 11, lines 52-63) the unique identifiers of each information object (see Fig. 11, ref. 906) and providing to said user with said one or more locations (see rationale provided in claim 13, for combining the teachings of Matsumoto and Cullen, to populate Matsumoto's version

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management table with corresponding HTML link anchors, read as one or more locations) the unique identifies of the information objects that the locations refer to (see Fig. 11, ref. 906).

The same motivation that was utilized for combining Matsumoto and Cullen in claim 13 applies equally well to claim 14.

As per claim 19, Matsumoto does not expressly teach wherein said storage means further includes instructions to cause said processing means to include within said tracking information a resource indicator that specifies a context of said input information objects for use in identifying where or how said input information objects may be found within the network.

Nevertheless in same art of version management, Cullen teaches a document management system, including a hypertext database 312 showing a version relationship among documents stored in a document database 302. Preferably, hypertext database 306 includes an HTML page for each series of documents document database 302 in the form of "HTML link anchors" which include a filename in a document database (see Fig. 3, and col. 4, lines 41-64, wherein the examiner is reading an HTML link anchor as a resource indicator that identifies where or how an input information object may be found within the network (i.e. document database 302)).

A person having ordinary skill in the art would have been motivated to modify the teachings of Matsumoto with the teachings of Cullen by (1) including within Matsumoto's system a document database for storing the electronic document of Matsumoto's

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invention; and (2) passing to terminal devices HTML link anchors pointing to electronic documents (i.e. an input information object) stored in the document database. The motivation for doing so would have been to provide a central database from which to backup and retrieve electronic document circulated by Matsumoto's invention (see col. 2, lines 31-46). Furthermore, by circulating HTML link anchors of electronic documents to other terminal devices, as opposed to circulating the electronic document itself (as performed by Matsumoto, see col. 2, lines 29-39) this would have reduced the bandwidth required by Matsumoto for circulating the electronic document.

As per claim 20, Matsumoto does not expressly teach wherein said resource indicator includes a reference to a specific namespace that an information object is associated with (i.e. a HTML link anchor that points to a specific location within document database 302, see Cullen Fig. 3, and col. 4, lines 41-64).

The same motivation that was utilized for combining Matsumoto and Cullen in claim 19 applies equally well to claim 20.

As per claim 21, Matsumoto further teaches wherein said resource indicator includes a reference to a specific location of the information object within a network (i.e. a HTML link anchor that points to a specific location within document database 302, see Cullen Fig. 3, and col. 4, lines 41-64).

The same motivation that was utilized for combining Matsumoto and Cullen in claim 19 applies equally well to claim 21.



**Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. (US 5,465,299) ("Matsumoto") in view of Cullen et al. (US 5,893,908) ("Cullen"), in further view of Gifford (US 6,052,718) ("Gifford").**

As per claim 15, Matsumoto in view of Cullen teaches the invention substantially as claimed as noted above. However, Matsumoto in view of Cullen does not expressly teach providing to said user the location of a copy of an information that is relatively easily accessible to that user when more than one copy is available.

Nevertheless, mirroring Cullen's document database (see Fig. 3, ref. 302) on a second document database (i.e. providing more than single copy of an electronic document, read as "a copy of information ... when more than one copy is available") was well known technique in the art.

For example, in the same art of document retrieval, Gifford teaches a system for replicating document among a plurality of servers (i.e. document databases) (see col. 3, lines 36-45). Furthermore, Gifford teaches where a user's request for a replica of the document is automatically directed to a document replica that provides the best performance according to the user's location (see abstract, read as a copy that is "relatively easily accessible").

A person having ordinary skill in the art would have been motivated to modify the teachings of Matsumoto and Cullen with the teachings of Gifford for replicating Matsumoto's electronic document (i.e. copy of information) across a plurality of

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document databases and upon a user's request providing the replica of the electronic document that provides the best performance based on the user's location. The motivation for doing so would have been to increase the retrieval time for retrieving documents in the system as taught by Matsumoto and Cullen.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see PTO 892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRENDAN Y. HIGA whose telephone number is (571)272-5823. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on (571)272-6776. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRENDAN HIGA/  
Examiner, Art Unit 2453